

June 11, 2002

Stan Woszczynski
Cummins Industrial Center
800 East Third Street
Seymour, Indiana 47274

Re: **071-15326**
Significant Source Modification to:
Part 70 Operating Permit No.: **T 071-7679-00015**

Dear Mr. Woszczynski:

Cummins Industrial Center was issued a permit on January 9, 2001 for a manufacturing, testing and painting internal combustion engines source. An application to modify the source was received on February 26, 2002. Pursuant to 326 IAC 2-7-10.5 the following emission units are approved for construction at the source:

The existing test cells were only permitted to burn diesel oil. Cummins Industrial Center has requested that three (3) of the cells be permitted to burn natural gas in addition to diesel oil. Since no new test cells are being constructed the following shows the changes to the equipment list that are required to reflect the proposed modification to this source. In addition, the horsepower rating of test cells 804, 805 and 808 has been corrected from 1,350 to 1,500. This does not change any previous emission calculations because the potential to emit was based upon the maximum fuel usage, which has not been revised in the application. In addition, the source is retaining the existing 250 ton per year NO_x emission limit to render the requirements of 326 IAC 2-2 not applicable.

The lettering and numbering from the Part 70 Operating Permit for the emission units have been retained for continuity and to avoid confusion. Therefore, the changes in the existing equipment list are as follows:

- (b) Six (6) ~~diesel-powered~~ production engine test cells, known as EU-02A, installed in 1978, capacity: 142.14 gallons of diesel fuel per hour, total, consisting of the following equipment:
- (1) Three (3) diesel-powered production engine test cells, known as 801, 802, and 803, exhausted through Stacks 801, 802, and 803, respectively, maximum output 765 horsepower and heat input of 3.08 million British thermal units per hour, each; capacity: 23.69 gallons of diesel fuel per hour, each.
 - (2) **Two (2)** ~~Three (3)~~ diesel-powered production engine test cells, known as 804, **and** 805, ~~and 808~~, exhausted through Stacks 804, **and** 805, ~~and 808~~, respectively, maximum output **1,500** ~~1,350~~ horsepower and heat input of 3.08 million British thermal units per hour, each; capacity: 23.69 gallons of diesel fuel per hour, each.
 - (3) **One (1)** ~~diesel-powered~~ or natural gas-fired production engine test cell, known as 808, exhausted through Stack 808, maximum output **1,500** horsepower on diesel oil or natural gas and heat input of 3.08 million British thermal units per hour on diesel oil or 2.68 million British thermal units per hour on natural gas, capacity: 23.69 gallons of diesel fuel per hour.

- (c) Eight (8) ~~diesel-powered~~ engineering engine test cells, known as EU-02B, installed in 1978, capacity: 314.4 gallons of diesel fuel per hour, total, consisting of the following equipment:
- (1) **One (1) diesel-powered or natural gas-fired engineering engine test cell, known as HHP4, exhausted through Stack HHP4, maximum output 1,350 horsepower on diesel oil or natural gas and heat input of 5.11 million British thermal units per hour on diesel oil or 4.44 million British thermal units per hour on natural gas, capacity: 39.3 gallons of diesel fuel per hour.**
 - (12) Two (2) diesel-powered engineering engine test cells, known as 806 and 807, exhausted through Stacks 806 and 807, respectively, maximum output 1,350 horsepower and heat input of 5.11 million British thermal units per hour, each; capacity: 39.3 gallons of diesel fuel per hour, each.
 - (23) Two (2) diesel-powered engineering engine test cells, known as HHP1 and HHP2, exhausted through Stacks HHP1 and HHP2, respectively, maximum output 3,600 horsepower and heat input of 5.11 million British thermal units per hour, each; capacity: 39.3 gallons of diesel fuel per hour, each.
 - (34) One (1) diesel-powered engineering engine test cell, known as HHP3, exhausted through Stack HHP3, maximum output 3,150 horsepower and heat input of 5.11 million British thermal units per hour; capacity: 39.3 gallons of diesel fuel per hour.
 - (45) **One (1) Two (2) diesel-powered engineering test cells, identified as HHP4 and HHP5, exhausting through Stacks HHP4 and HHP5, respectively, maximum output 1,350 horsepower and heat input of 5.11 million British thermal units per hour, each; capacity: 39.3 gallons of diesel fuel per hour, each.**
 - (56) One (1) diesel-powered **or natural gas-fired** outside engine test pad, known as PI, exhausted through ~~S~~stacks PD1 and PD2, maximum output 6,700 horsepower **on diesel oil or natural gas** and heat input of 5.11 million British thermal units per hour; **on diesel oil or 4.44 million British thermal units per hour on natural gas**, capacity: 39.3 gallons of diesel fuel per hour.

The following construction conditions are applicable to the proposed project:

General Construction Conditions

1. The data and information supplied with the application shall be considered part of this source modification approval. Prior to any proposed change in construction which may affect the potential to emit (PTE) of the proposed project, the change must be approved by the Office of Air Quality (OAQ).
2. This approval to construct does not relieve the permittee of the responsibility to comply with the provisions of the Indiana Environmental Management Law (IC 13-11 through 13-20; 13-22 through 13-25; and 13-30), the Air Pollution Control Law (IC 13-17) and the rules promulgated thereunder, as well as other applicable local, state, and federal requirements.
3. Effective Date of the Permit
Pursuant to IC 13-15-5-3, this approval becomes effective upon its issuance.

4. Pursuant to 326 IAC 2-1.1-9 and 326 IAC 2-7-10.5(i), the Commissioner may revoke this approval if construction is not commenced within eighteen (18) months after receipt of this approval or if construction is suspended for a continuous period of one (1) year or more.
5. All requirements and conditions of this construction approval shall remain in effect unless modified in a manner consistent with procedures established pursuant to 326 IAC 2.
6. Pursuant to 326 IAC 2-7-10.5(l) the emission units constructed under this approval shall not be placed into operation prior to revision of the source's Part 70 Operating Permit to incorporate the required operation conditions.

This significant source modification authorizes construction of the new emission units. Operating conditions shall be incorporated into the Part 70 Operating Permit as a significant permit modification in accordance with 326 IAC 2-7-10.5(l)(2) and 326 IAC 2-7-12. Operation is not approved until the significant permit modification has been issued.

This decision is subject to the Indiana Administrative Orders and Procedures Act - IC 4-21.5-3-5. If you have any questions on this matter contact Frank P. Castelli, c/o OAQ, 100 North Senate Avenue, P.O. Box 6015, Indianapolis, Indiana, 46206-6015, at 631-691-3395 ext. 13 or in Indiana at 1-800-451-6027 (ext 631-691-3395).

Sincerely,

Original signed by Paul Dubenetzky

Paul Dubenetzky, Chief
Permits Branch
Office of Air Quality

FPC/MES

cc: File - Jackson County
Jackson County Health Department
Air Compliance Section Inspector -Joe Foyst
Compliance Branch - Karen Nowak
Administrative and Development - Lisa Lawrence
Technical Support and Modeling - Michele Boner

PART 70 OPERATING PERMIT OFFICE OF AIR QUALITY

**Cummins Industrial Center
800 East Third Street
Seymour, Indiana 47274**

(herein known as the Permittee) is hereby authorized to operate subject to the conditions contained herein, the source described in Section A (Source Summary) of this permit.

This permit is issued in accordance with 326 IAC 2 and 40 CFR Part 70 Appendix A and contains the conditions and provisions specified in 326 IAC 2-7 as required by 42 U.S.C. 7401, et. seq. (Clean Air Act as amended by the 1990 Clean Air Act Amendments), 40 CFR Part 70.6, IC 13-15 and IC 13-17.

First Significant Source Modification SSM 071-15326-00015	Conditions Affected: A.2, D.2.1, D.2.3, D.2.4 & the Quarterly Report Form
Original signed by Paul Dubenetzky Issued by: Paul Dubenetzky, Branch Chief Office of Air Quality	Issuance Date: June 11, 2002

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SECTION A

SOURCE SUMMARY

This permit is based on information requested by the Indiana Department of Environmental Management (IDEM), Office of Air Quality (OAQ). The information describing the source contained in Conditions A.1 through A.3 is descriptive information and does not constitute enforceable conditions. However, the Permittee should be aware that a physical change or a change in the method of operation that may render this descriptive information obsolete or inaccurate may trigger requirements for the Permittee to obtain additional permits or seek modification of this permit pursuant to 326 IAC 2, or change other applicable requirements presented in the permit application.

A.1 General Information [326 IAC 2-7-4(c)] [326 IAC 2-7-5(15)] [326 IAC 2-7-1(22)]

The Permittee owns and operates a stationary manufacturing, testing and painting internal combustion engines source.

Responsible Official:	Stan Woszczynski
Source Address:	800 East Third Street, Seymour, Indiana 47274
Mailing Address:	800 East Third Street, Seymour, Indiana 47274
SIC Code:	3519
County Location:	Jackson
Source Location Status:	Attainment for all criteria pollutants
Source Status:	Part 70 Permit Program Minor Source, under PSD; Major Source, Section 112 of the Clean Air Act

A.2 Emission Units and Pollution Control Equipment Summary [326 IAC 2-7-4(c)(3)] [326 IAC 2-7-5(15)]

This stationary source consists of the following emission units and pollution control devices:

- (a) One (1) paint spray line, known as EU-01, consisting of the following equipment:
 - (1) One (1) primer spray booth, known as EU-01A, installed in 1986, equipped with dry filters for overspray control, exhausted through Stacks S1 and S2, capacity: three (3) engines per hour.
 - (2) One (1) touch-up spray booth, known as EU-01C, installed in 1986, equipped with dry filters for overspray control, exhausted through Stacks S5 and S6, capacity: three (3) engines per hour.
 - (3) One (1) offline spray booth, known as EU-01D, installed in 1986, equipped with dry filters for overspray control, exhausted through Stack S7, capacity: 0.67 engines per hour.
 - (4) One (1) small parts spray booth, known as EU-01F, installed in 1986, equipped with dry filters for overspray control, exhausted through Stacks S8, capacity: three (3) engines per hour.
- (b) Six (6) production engine test cells, known as EU-02A, installed in 1978, capacity: 142.14 gallons of diesel fuel per hour, total, consisting of the following equipment:
 - (1) Three (3) diesel-powered production engine test cells, known as 801, 802, and 803, exhausted through Stacks 801, 802, and 803, respectively, maximum output 765 horsepower and heat input of 3.08 million British thermal units per hour, each; capacity: 23.69 gallons of diesel fuel per hour, each.

- (2) Two (2) diesel-powered production engine test cells, known as 804 and 805, exhausted through Stacks 804 and 805, respectively, maximum output 1,500 horsepower and heat input of 3.08 million British thermal units per hour, each; capacity: 23.69 gallons of diesel fuel per hour, each.
 - (3) One (1) diesel-powered or natural gas-fired production engine test cell, known as 808, exhausted through Stack 808, maximum output 1,500 horsepower on diesel oil or natural gas and heat input of 3.08 million British thermal units per hour on diesel oil or 2.68 million British thermal units per hour on natural gas, capacity: 23.69 gallons of diesel fuel per hour.
- (c) Eight (8) engineering engine test cells, known as EU-02B, installed in 1978, capacity: 314.4 gallons of diesel fuel per hour, total, consisting of the following equipment:
- (1) Two (2) diesel-powered engineering engine test cells, known as 806 and 807, exhausted through Stacks 806 and 807, respectively, maximum output 1,350 horsepower and heat input of 5.11 million British thermal units per hour, each; capacity: 39.3 gallons of diesel fuel per hour, each.
 - (2) Two (2) diesel-powered engineering engine test cells, known as HHP1 and HHP2, exhausted through Stacks HHP1 and HHP2, respectively, maximum output 3,600 horsepower and heat input of 5.11 million British thermal units per hour, each; capacity: 39.3 gallons of diesel fuel per hour, each.
 - (3) One (1) diesel-powered engineering engine test cell, known as HHP3, exhausted through Stack HHP3, maximum output 3,150 horsepower and heat input of 5.11 million British thermal units per hour; capacity: 39.3 gallons of diesel fuel per hour.
 - (4) One (1) diesel-powered engineering test cells, identified as HHP5, exhausting through Stack HHP5, maximum output 1,350 horsepower and heat input of 5.11 million British thermal units per hour, capacity: 39.3 gallons of diesel fuel per hour.
 - (5) One (1) diesel-powered or natural gas-fired outside engine test pad, known as PI, exhausted through Stacks PD1 and PD2, maximum output 6,700 horsepower on diesel oil or natural gas and heat input of 5.11 million British thermal units per hour on diesel oil or 4.44 million British thermal units per hour on natural gas, capacity: 39.3 gallons of diesel fuel per hour.
 - (6) One (1) diesel-powered or natural gas-fired engineering engine test cell, known as HHP4, exhausted through Stack HHP4, maximum output 1,350 horsepower on diesel oil or natural gas and heat input of 5.11 million British thermal units per hour on diesel oil or 4.44 million British thermal units per hour on natural gas, capacity: 39.3 gallons of diesel fuel per hour.
- (d) Two (2) natural gas-fired boilers with No. 2 fuel oil backup, known as EU-03A and EU-03B, installed in 1978, exhausted through Stacks B1 and B2, respectively, rated at 20.9 million British thermal units per hour, each.
- (e) One (1) top coat spray booth, known as EU-01B, installed in 1995, equipped with dry filters for overspray control, exhausted through Stacks S3 and S4, capacity: three (3) engines per hour.

SECTION D.2

FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]:

- (b) Six (6) production engine test cells, known as EU-02A, installed in 1978, capacity: 142.14 gallons of diesel fuel per hour, total, consisting of the following equipment:
- (1) Three (3) diesel-powered production engine test cells, known as 801, 802, and 803, exhausted through Stacks 801, 802, and 803, respectively, maximum output 765 horsepower and heat input of 3.08 million British thermal units per hour, each; capacity: 23.69 gallons of diesel fuel per hour, each.
 - (2) Two (2) diesel-powered production engine test cells, known as 804 and 805, exhausted through Stacks 804 and 805, respectively, maximum output 1,500 horsepower and heat input of 3.08 million British thermal units per hour, each; capacity: 23.69 gallons of diesel fuel per hour, each.
 - (3) One (1) diesel-powered or natural gas-fired production engine test cell, known as 808, exhausted through Stack 808, maximum output 1,500 horsepower on diesel oil or natural gas and heat input of 3.08 million British thermal units per hour on diesel oil or 2.68 million British thermal units per hour on natural gas, capacity: 23.69 gallons of diesel fuel per hour.
- (c) Eight (8) engineering engine test cells, known as EU-02B, installed in 1978, capacity: 314.4 gallons of diesel fuel per hour, total, consisting of the following equipment:
- (1) Two (2) diesel-powered engineering engine test cells, known as 806 and 807, exhausted through Stacks 806 and 807, respectively, maximum output 1,350 horsepower and heat input of 5.11 million British thermal units per hour, each; capacity: 39.3 gallons of diesel fuel per hour, each.
 - (2) Two (2) diesel-powered engineering engine test cells, known as HHP1 and HHP2, exhausted through Stacks HHP1 and HHP2, respectively, maximum output 3,600 horsepower and heat input of 5.11 million British thermal units per hour, each; capacity: 39.3 gallons of diesel fuel per hour, each.
 - (3) One (1) diesel-powered engineering engine test cell, known as HHP3, exhausted through Stack HHP3, maximum output 3,150 horsepower and heat input of 5.11 million British thermal units per hour; capacity: 39.3 gallons of diesel fuel per hour.
 - (4) One (1) diesel-powered engineering test cells, identified as HHP5, exhausting through Stack HHP5, maximum output 1,350 horsepower and heat input of 5.11 million British thermal units per hour, capacity: 39.3 gallons of diesel fuel per hour.
 - (5) One (1) diesel-powered or natural gas-fired outside engine test pad, known as PI, exhausted through Stacks PD1 and PD2, maximum output 6,700 horsepower on diesel oil or natural gas and heat input of 5.11 million British thermal units per hour on diesel oil or 4.44 million British thermal units per hour on natural gas, capacity: 39.3 gallons of diesel fuel per hour.
 - (6) One (1) diesel-powered or natural gas-fired engineering engine test cell, known as HHP4, exhausted through Stack HHP4, maximum output 1,350 horsepower on diesel oil or natural gas and heat input of 5.11 million British thermal units per hour on diesel oil or 4.44 million British thermal units per hour on natural gas, capacity: 39.3 gallons of diesel fuel per hour.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.2.1 PSD Minor Limit [326 IAC 2-2] [40 CFR 52.21]

- (a) The total diesel fuel oil delivered to the fourteen (14) engine test cells, known as EU-02A and EU-02B, shall not exceed the amount calculated by the following equation, equivalent to NO_x emissions of 217.9 tons per twelve (12) consecutive month period.

$$\text{NO}_x \text{ emissions} = (\text{Diesel fuel oil burned by engines in EU-02A}) * (0.427 \text{ pounds of NO}_x/\text{gallon of diesel fuel oil}) / (2000 \text{ pounds/ton}) + (\text{Diesel fuel oil burned by engines in EU-02B}) * (0.155 \text{ pounds of NO}_x/\text{gallon of diesel fuel oil}) / (2000 \text{ pounds/ton}) + (\text{Natural gas burned by engines in test cells 808, HHP4 and PI}) * (0.00416 \text{ pounds of NO}_x/\text{cubic foot of natural gas} / (2000 \text{ pounds/ton}) \text{ at a natural gas heat content of } 1,020 \text{ British thermal units per cubic foot})$$

- (b) The NO_x emission factors shall not exceed:
- (1) 0.427 pounds of NO_x per gallon of diesel fuel oil for EU-02A, and
 - (2) 0.155 pounds of NO_x per gallon of diesel fuel oil for EU-02B.
 - (3) 0.00416 pounds of NO_x per cubic foot of natural gas for test cells 808, HHP4 and PI.
- (c) Compliance with the limits in (a) and (b) will insure that the NO_x emissions from the entire source, including insignificant activities will not exceed two hundred and fifty (250) tons per year and makes the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration) and 40 CFR 52.21 not applicable.

D.2.2 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for EU-02A and EU-02B and their control devices.

Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

D.2.3 Visible Emissions Notations

- (a) Visible emission notations of the test cell stack exhausts (801 through 808, HHP1 through HHP5) as well as test pad stack exhausts (PD1 and PD2) shall be performed once per shift during normal daylight operations when burning diesel oil. A trained employee shall record whether emissions are normal or abnormal.
- (b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.
- (c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.
- (d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.
- (e) The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when an abnormal emission is observed. Failure to take response steps in accordance with Section C - Compliance Monitoring Plan - Failure to Take Response Steps, shall be considered a violation of this permit.

Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.2.4 Record Keeping Requirements

- (a) To document compliance with Condition D.2.1, the Permittee shall maintain records in accordance with (1) and (2) below:
 - (1) Calendar dates covered in the compliance determination period; and
 - (2) Actual diesel fuel oil usage in EU-02A and EU-02B since last compliance determination period and equivalent NO_x emissions.
 - (3) Actual natural gas usage in EU-02A and EU-02B since last compliance determination period and equivalent NO_x emissions.
- (b) To document compliance with Condition D.2.3, the Permittee shall maintain records of visible emission notations of the test cell stack exhausts 801 through 808, HHP1 through HHP5, as well as test pad stack exhausts PD1 and PD2 once per shift when burning diesel oil.
- (c) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

D.2.5 Reporting Requirements

A quarterly summary of the information to document compliance with Condition D.2.1 shall be submitted to the address listed in Section C - General Reporting Requirements, of this permit, using the reporting forms located at the end of this permit, or their equivalent, within thirty (30) days after the end of the quarter being reported. The report submitted by the Permittee does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE BRANCH
Part 70 Quarterly Report**

Source Name: Cummins Industrial Center
Source Address: 800 East Third Street, Seymour, Indiana 47274
Mailing Address: 800 East Third Street, Seymour, Indiana 47274
Part 70 Permit No.: T 071-7679-00015
Facilities: Fourteen (14) engine test cells, known as EU-02A and EU-02B
Parameters: Diesel oil and natural gas fuels
Limit: Fuel usage per twelve (12) consecutive month period total, equivalent to 217.9 tons of NO_x per year calculated by the following equation:

NO_x emissions =(Diesel fuel oil burned by engines in EU-02A) * (0.427 pounds of NO_x/gallon of diesel fuel oil)/(2000 pounds/ton)+ (Diesel fuel oil burned by engines in EU-02B) * (0.155 pounds of NO_x/gallon of diesel fuel oil)/(2000 pounds/ ton)+(Natural gas burned by engines in test cells 808, HHP4 and PI) * (0.00416 pounds of NO_x/cubic foot of natural gas / (2000 pounds/ton) at a natural gas heat content of 1,020 British thermal units per cubic foot

YEAR: _____

Month	This Month			Previous 11 Months			12 Month Total		
	Diesel Fuel (gallons) EU-02A	Diesel Fuel (gallons) EU-02B	Equivalent NO _x (tons) EU-02A + EU-02B	Diesel Fuel (gallons) EU-02A	Diesel Fuel (gallons) EU-02B	Equivalent NO _x (tons) EU-02A + EU-02B	Diesel Fuel (gallons) EU-02A	Diesel Fuel (gallons) EU-02B	Equivalent NO _x (tons) EU-02A + EU-02B
Month	Natural Gas (cubic ft) EU-02A	Natural Gas (cubic ft) EU-02B	Equivalent NO _x (tons) EU-02A + EU-02B	Natural Gas (cubic ft) EU-02A	Natural Gas (cubic ft) EU-02B	Equivalent NO _x (tons) EU-02A + EU-02B	Natural Gas (cubic ft) EU-02A	Natural Gas (cubic ft) EU-02B	Equivalent NO _x (tons) EU-02A + EU-02B
Total NO _x Emissions Diesel Oil & Natural Gas			Month	Month			Month		
12 Month Total (tons)									

9 No deviation occurred in this quarter.

9 Deviation/s occurred in this quarter.

Deviation has been reported on:

Submitted by: _____

Title / Position: _____

Signature: _____

Date: _____

Phone: _____

Attach a signed certification to complete this report.

Mail to: Permit Administration & Development Section
Office of Air Quality
100 North Senate Avenue
P.O. Box 6015
Indianapolis, Indiana 46206-6015

Cummins Industrial Center
800 East Third Street
Seymour, IN 47274

Affidavit of Construction

I, _____, being duly sworn upon my oath, depose and say:
(Name of the Authorized Representative)

1. I live in _____ County, Indiana and being of sound mind and over twenty-one (21) years of age, I am competent to give this affidavit.
2. I hold the position of _____ for _____.
(Title) (Company Name)
3. By virtue of my position with _____, I have personal knowledge of the
(Company Name)
representations contained in this affidavit and am authorized to make these representations on behalf of
_____.
(Company Name)
4. I hereby certify that Cummins Industrial Center, 800 East Third Street, Seymour, IN 47274 completed modification of test cells 808, HHP4 and PI, to run on natural gas, on _____ in conformity with the requirements and intent of the Part 70 Operating Permit modification application received by the Office of Air Quality on February 26, 2002 and as permitted pursuant to **Source Modification No. 071-15326, Plant ID No. 071-00015** issued on _____.

Further Affiant said not.

I affirm under penalties of perjury that the representations contained in this affidavit are true, to the best of my information and belief.

Signature

Date

STATE OF INDIANA)
)SS

COUNTY OF _____)

Subscribed and sworn to me, a notary public in and for _____ County and State of
Indiana on this _____ day of _____, 20 _____.

My Commission expires: _____.

Signature

Name (typed or printed)

Indiana Department of Environmental Management Office of Air Quality

Technical Support Document (TSD) for Part 70 Significant Source and Permit Modifications

Source Background and Description

Source Name:	Cummins Industrial Center
Source Location:	800 East Third Street, Seymour, IN 47274
County:	Jackson
SIC Code:	3519
Operation Permit No.:	T 071-7679-00015
Operation Permit Issuance Date:	January 9, 2001
Significant Source Modification No.:	071-15326-00015
Significant Permit Modification No.:	071-15679-00015
Permit Reviewer:	Frank P. Castelli

The Office of Air Quality (OAQ) has reviewed a modification application from Cummins Industrial Center relating to the construction and operation of the following existing emission units and pollution control devices with an additional fuel.

The existing test cells were only permitted to burn diesel oil. Cummins Industrial Center has requested that three (3) of the cells be permitted to burn natural gas in addition to diesel oil. Since no new test cells are being constructed the following shows the changes to the equipment list that are required to reflect the proposed modification to this source. In addition, the horsepower rating of test cells 804, 805 and 808 has been corrected from 1,350 to 1,500. This does not change any previous emission calculations because the potential to emit was based upon the maximum fuel usage, which has not been revised in the application and not based on the horsepower rating of the engines. In addition, the source is retaining the existing 250 ton per year NO_x emission limit to render the requirements of 326 IAC 2-2 not applicable.

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- (b) Six (6) ~~diesel-powered~~ production engine test cells, known as EU-02A, installed in 1978, capacity: 142.14 gallons of diesel fuel per hour, total, consisting of the following equipment:
 - (1) Three (3) diesel-powered production engine test cells, known as 801, 802, and 803, exhausted through Stacks 801, 802, and 803, respectively, maximum output 765 horsepower and heat input of 3.08 million British thermal units per hour, each; capacity: 23.69 gallons of diesel fuel per hour, each.
 - (2) **Two (2)** ~~Three (3)~~ diesel-powered production engine test cells, known as 804, **and** 805, ~~and 808~~, exhausted through Stacks 804; **and** 805, ~~and 808~~, respectively, maximum output **1,500** ~~1,350~~ horsepower and heat input of 3.08 million British thermal units per hour, each; capacity: 23.69 gallons of diesel fuel per hour, each.

- (3) **One (1) diesel-powered or natural gas-fired production engine test cell, known as 808, exhausted through Stack 808, maximum output 1,500 horsepower on diesel oil or natural gas and heat input of 3.08 million British thermal units per hour on diesel oil or 2.68 million British thermal units per hour on natural gas, capacity: 23.69 gallons of diesel fuel per hour.**
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 - (1) Two (2) diesel-powered engineering engine test cells, known as 806 and 807, exhausted through Stacks 806 and 807, respectively, maximum output 1,350 horsepower and heat input of 5.11 million British thermal units per hour, each; capacity: 39.3 gallons of diesel fuel per hour, each.
 - (2) Two (2) diesel-powered engineering engine test cells, known as HHP1 and HHP2, exhausted through Stacks HHP1 and HHP2, respectively, maximum output 3,600 horsepower and heat input of 5.11 million British thermal units per hour, each; capacity: 39.3 gallons of diesel fuel per hour, each.
 - (3) One (1) diesel-powered engineering engine test cell, known as HHP3, exhausted through Stack HHP3, maximum output 3,150 horsepower and heat input of 5.11 million British thermal units per hour; capacity: 39.3 gallons of diesel fuel per hour.
 - (4) **One (1) Two (2) diesel-powered engineering test cells, identified as HHP4 and HHP5, exhausting through Stacks HHP4 and HHP5, respectively, maximum output 1,350 horsepower and heat input of 5.11 million British thermal units per hour, each; capacity: 39.3 gallons of diesel fuel per hour, each.**
 - (5) One (1) diesel-powered **or natural gas-fired** outside engine test pad, known as PI, exhausted through ~~Stacks~~ PD1 and PD2, maximum output 6,700 horsepower **on diesel oil or natural gas** and heat input of 5.11 million British thermal units per hour, **on diesel oil or 4.44 million British thermal units per hour on natural gas**, capacity: 39.3 gallons of diesel fuel per hour.
 - (6) **One (1) diesel-powered or natural gas-fired engineering engine test cell, known as HHP4, exhausted through Stack HHP4, maximum output 1,350 horsepower on diesel oil or natural gas and heat input of 5.11 million British thermal units per hour on diesel oil or 4.44 million British thermal units per hour on natural gas, capacity: 39.3 gallons of diesel fuel per hour.**

History

On February 26, 2002, Cummins Industrial Center submitted an application to the OAQ requesting that three (3) of the existing test cells that are currently permitted only to test diesel fired engines to be allowed to also test natural gas fired engines. Additional information received on April 9, 2002 revised the application as to which test cells are proposed to burn natural gas. Cummins Industrial Center was issued a Part 70 Operating Permit for the diesel engine test cells on January 9, 2001.

Since natural gas is a new, previously unpermitted fuel for the test engines, the level of permitting required was determined by the total potential to emit burning this new fuel in the requested engine test cells.

The existing NO_x limit of 250 tons per year will be retained and the condition limiting these NO_x emissions will be revised to account for the proposed natural gas usage.

Enforcement Issue

There are no enforcement actions pending.

Recommendation

The staff recommends to the Commissioner that the Part 70 Significant Source Modification be approved. This recommendation is based on the following facts and conditions:

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant.

An application for the purposes of this review was received on February 26, 2002. Additional information was received on April 9, 2002.

Emission Calculations

See page 1 of 1 of Appendix A of this document for detailed emissions calculations. The emission factors for gas engine loads of 90% to 105% were used in all calculations as well as to determine the fuel usage to comply with the NO_x limit since these engines can operate at loads greater than 90%.

Potential To Emit of Modification

Pursuant to 326 IAC 2-1.1-1(16), Potential to Emit is defined as “the maximum capacity of a stationary source to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or type or amount of material combusted, stored, or processed shall be treated as part of its design if the limitation is enforceable by the U.S. EPA.”

This table reflects the PTE of the modification before controls. Control equipment is not considered federally enforceable until it has been required in a federally enforceable permit.

Pollutant	Potential To Emit (tons/year)
PM	0.502
PM ₁₀	0.004
SO ₂	0.030
VOC	5.97
CO	16.1
NO _x	207

HAPs	Potential To Emit (tons/year)
1,1,2,2-Tetrachloroethane	0.002
1,1,2-Trichloroethane	0.002
1,1 Dichloroethane	0.001
1,2 Dichloroethane	0.001
1,2 Dichloropropane	0.001
1,3 Butadiene	0.014
1,3 Dichloropropene	0.001
2,2,4 Trimethylpentane	0.013
Acetaldehyde	0.423
Acrolein	0.260
Benzene	0.002
Biphenyl	0.011
Carbon Tetrachloride	0.002
Chlorobenzene	0.002
Chloroethane	0.0001
Chloroform	0.001
Ethylbenzene	0.002
Ethylene Dibromide	0.002
Formaldehyde	2.67
Methanol	0.127
Methylene Chloride	0.001
n-Hexane	0.056
Naphthalene	0.004
Phenol	0.001
Styrene	0.001
Toluene	0.021
Vinyl Chloride	0.001
Xylene	0.009
TOTAL	3.65

Justification for Modification

The Part 70 Operating Permit is being modified through a Part 70 Significant Source Modification. This modification is being performed pursuant to 326 IAC 2-7-10.5(f)(4) since the potential to emit NO_x from the modification exceeds twenty five (25) tons per year.

The proposed operating conditions shall be incorporated into the Part 70 Operating Permit as a Significant Permit Modification (SPM 071-15679-00015) in accordance with 326 IAC 2-7-12(d)(1). The Significant Permit Modification will give the source approval to operate the proposed emission units.

County Attainment Status

The source is located in Jackson County.

Pollutant	Status
PM ₁₀	attainment
SO ₂	attainment
NO ₂	attainment
Ozone	attainment
CO	attainment
Lead	attainment

- (a) Volatile organic compounds (VOC) are precursors for the formation of ozone. Therefore, VOC emissions are considered when evaluating the rule applicability relating to the ozone standards. Jackson County has been designated as attainment or unclassifiable for ozone. Therefore, VOC emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.
- (b) Jackson County has been classified as attainment or unclassifiable for all remaining criteria pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.

Source Status

Existing Source PSD Definition (emissions after controls, based upon 8760 hours of operation per year at rated capacity and/or as otherwise limited):

Pollutant	Emissions (tons/year)
PM	28.1
PM ₁₀	28.5
SO ₂	107
VOC	89.3

Pollutant	Emissions (tons/year)
CO	67.3
NO _x	less than 250

- (a) This existing source is not a major stationary source because no attainment regulated pollutant is emitted at a rate of 250 tons per year or more, and it is not one of the 28 listed source categories.
- (b) These emissions are based upon the Technical Support Document for the Part 70 Operating Permit T 071-7679-00015.

Potential to Emit of Modification After Issuance

The table below summarizes the potential to emit, reflecting all limits, of the significant emission units after controls. The control equipment is considered federally enforceable only after issuance of this Part 70 source modification.

	Potential to Emit (tons/year)						
Process/facility	PM	PM ₁₀	SO ₂	VOC	CO	NO _x	HAPs
Proposed Modification	0.502	0.004	0.030	5.97	16.1	207	3.65
Existing Source	28.1	28.5	107	89.3	67.3	less than 250	28.6
Total Source with Modification	28.6	28.5	107	95.3	83.4	less than 250	32.3
PSD Threshold Level	250	250	250	250	250	250	-

This modification to an existing minor stationary source is not major because the emission increase is less than the PSD threshold levels. The NO_x emissions from the entire source will still be limited to less than 250 tons per year in order to maintain this existing source's minor PSD status.

The following equation will be used to limit the fuel throughput required to limit NO_x emissions to less than 250 tons per year. Therefore, pursuant to 326 IAC 2-2, and 40 CFR 52.21, the PSD requirements do not apply.

$$\text{NO}_x \text{ emissions} = (\text{Diesel fuel oil burned by engines in EU-02A}) * (0.427 \text{ pounds of NO}_x/\text{gallon of diesel fuel oil})/(2000 \text{ pounds/ton}) \\ + (\text{Diesel fuel oil burned by engines in EU-02B}) * (0.155 \text{ pounds of NO}_x/\text{gallon of diesel fuel oil})/(2000 \text{ pounds/ton}) \\ + (\text{Natural gas burned by engines in test cells 808, HHP4 and PI}) * (0.00416 \text{ pounds of NO}_x/\text{cubic foot of natural gas} / (2000 \text{ pounds/ton}) \text{ at a natural gas heat content of } 1,020 \text{ British thermal units per cubic foot}$$

Federal Rule Applicability

- (a) This significant modification does not involve a pollutant-specific emissions unit with the potential to emit after control in an amount equal to or greater than 100 tons per year. Therefore, the requirements of 40 CFR Part 64, Compliance Assurance Monitoring, are not applicable.
- (b) There are no New Source Performance Standards (NSPS)(326 IAC 12 and 40 CFR Part 60) applicable to this proposed modification.
- (c) There are no National Emission Standards for Hazardous Air Pollutants (NESHAPs) (326 IAC 14, 326 IAC 20, 40 CFR 61 and 40 CFR Part 63) applicable to this proposed modification.

State Rule Applicability - Individual Facilities

326 IAC 2-2 (Prevention of Significant Deterioration (PSD))

The emissions from the existing source with the proposed modification will still be limited to less than two hundred and fifty (250) tons of NO_x per year. Therefore, the requirements of 326 IAC 2-2 and 40 CFR 52.21, are not applicable.

326 IAC 2-4.1-1 (New Source Air Toxics Control)

This modification is minor for a single and combination of HAPs and therefore the requirements of this rule are not applicable to this modification.

Compliance Requirements

There are no additional compliance requirements applicable to this modification.

Proposed Changes

The permit language is changed to read as follows (deleted language appears as ~~strikeouts~~, new language appears in **bold**):

A.2 Emission Units and Pollution Control Equipment Summary [326 IAC 2-7-4(c)(3)] [326 IAC 2-7-5(15)]

This stationary source consists of the following emission units and pollution control devices:

- (b) Six (6) ~~diesel-powered~~ production engine test cells, known as EU-02A, installed in 1978, capacity: 142.14 gallons of diesel fuel per hour, total, consisting of the following equipment:
 - (1) Three (3) diesel-powered production engine test cells, known as 801, 802, and 803, exhausted through Stacks 801, 802, and 803, respectively, maximum output 765 horsepower and heat input of 3.08 million British thermal units per hour, each; capacity: 23.69 gallons of diesel fuel per hour, each.
 - (2) **Two (2)** ~~Three (3)~~ diesel-powered production engine test cells, known as 804, **and** 805, ~~and 808~~, exhausted through Stacks 804, **and** 805, ~~and 808~~, respectively, maximum output **1,500** ~~4,350~~ horsepower and heat input of 3.08 million British thermal units per hour, each; capacity: 23.69 gallons of diesel fuel per hour, each.

- (3) **One (1) diesel-powered or natural gas-fired production engine test cell, known as 808, exhausted through Stack 808, maximum output 1,500 horsepower on diesel oil or natural gas and heat input of 3.08 million British thermal units per hour on diesel oil or 2.68 million British thermal units per hour on natural gas, capacity: 23.69 gallons of diesel fuel per hour.**
- (c) ~~Eight (8) diesel-powered~~ engineering engine test cells, known as EU-02B, installed in 1978, capacity: 314.4 gallons of diesel fuel per hour, total, consisting of the following equipment:

 - (1) Two (2) diesel-powered engineering engine test cells, known as 806 and 807, exhausted through Stacks 806 and 807, respectively, maximum output 1,350 horsepower and heat input of 5.11 million British thermal units per hour, each; capacity: 39.3 gallons of diesel fuel per hour, each.
 - (2) Two (2) diesel-powered engineering engine test cells, known as HHP1 and HHP2, exhausted through Stacks HHP1 and HHP2, respectively, maximum output 3,600 horsepower and heat input of 5.11 million British thermal units per hour, each; capacity: 39.3 gallons of diesel fuel per hour, each.
 - (3) One (1) diesel-powered engineering engine test cell, known as HHP3, exhausted through Stack HHP3, maximum output 3,150 horsepower and heat input of 5.11 million British thermal units per hour; capacity: 39.3 gallons of diesel fuel per hour.
 - (4) **One (1)** ~~Two (2)~~ diesel-powered engineering test cells, identified as ~~HHP4 and HHP5~~, exhausting through Stacks ~~HHP4 and HHP5~~, respectively, maximum output 1,350 horsepower and heat input of 5.11 million British thermal units per hour, ~~each~~; capacity: 39.3 gallons of diesel fuel per hour, ~~each~~.
 - (5) One (1) diesel-powered **or natural gas-fired** outside engine test pad, known as PI, exhausted through ~~S~~stacks PD1 and PD2, maximum output 6,700 horsepower **on diesel oil or natural gas** and heat input of 5.11 million British thermal units per hour, **on diesel oil or 4.44 million British thermal units per hour on natural gas**, capacity: 39.3 gallons of diesel fuel per hour.
 - (6) **One (1) diesel-powered or natural gas-fired engineering engine test cell, known as HHP4, exhausted through Stack HHP4, maximum output 1,350 horsepower on diesel oil or natural gas and heat input of 5.11 million British thermal units per hour on diesel oil or 4.44 million British thermal units per hour on natural gas, capacity: 39.3 gallons of diesel fuel per hour.**

SECTION D.2

FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]:

- (b) Six (6) ~~diesel-powered~~ production engine test cells, known as EU-02A, installed in 1978, capacity: 142.14 gallons of diesel fuel per hour, total, consisting of the following equipment:
- (1) Three (3) diesel-powered production engine test cells, known as 801, 802, and 803, exhausted through Stacks 801, 802, and 803, respectively, maximum output 765 horsepower and heat input of 3.08 million British thermal units per hour, each; capacity: 23.69 gallons of diesel fuel per hour, each.
 - (2) **Two (2)** ~~Three (3)~~ diesel-powered production engine test cells, known as 804; **and** 805, ~~and 808~~, exhausted through Stacks 804; **and** 805, ~~and 808~~, respectively, maximum output **1,500** ~~1,350~~ horsepower and heat input of 3.08 million British thermal units per hour, each; capacity: 23.69 gallons of diesel fuel per hour, each.
 - (3) **One (1) diesel-powered or natural gas-fired production engine test cell, known as 808, exhausted through Stack 808, maximum output 1,500 horsepower on diesel oil or natural gas and heat input of 3.08 million British thermal units per hour on diesel oil or 2.68 million British thermal units per hour on natural gas, capacity: 23.69 gallons of diesel fuel per hour.**
- (c) Eight (8) ~~diesel-powered~~ engineering engine test cells, known as EU-02B, installed in 1978, capacity: 314.4 gallons of diesel fuel per hour, total, consisting of the following equipment:
- (1) Two (2) diesel-powered engineering engine test cells, known as 806 and 807, exhausted through Stacks 806 and 807, respectively, maximum output 1,350 horsepower and heat input of 5.11 million British thermal units per hour, each; capacity: 39.3 gallons of diesel fuel per hour, each.
 - (2) Two (2) diesel-powered engineering engine test cells, known as HHP1 and HHP2, exhausted through Stacks HHP1 and HHP2, respectively, maximum output 3,600 horsepower and heat input of 5.11 million British thermal units per hour, each; capacity: 39.3 gallons of diesel fuel per hour, each.
 - (3) One (1) diesel-powered engineering engine test cell, known as HHP3, exhausted through Stack HHP3, maximum output 3,150 horsepower and heat input of 5.11 million British thermal units per hour; capacity: 39.3 gallons of diesel fuel per hour.
 - (4) **One (1)** ~~Two (2)~~ diesel-powered engineering test cells, identified as HHP4 ~~and HHP5~~, exhausting through Stacks ~~HHP4 and HHP5, respectively~~, maximum output 1,350 horsepower and heat input of 5.11 million British thermal units per hour, ~~each~~; capacity: 39.3 gallons of diesel fuel per hour, ~~each~~.
 - (5) One (1) diesel-powered **or natural gas-fired** outside engine test pad, known as PI, exhausted through ~~S~~stacks PD1 and PD2, maximum output 6,700 horsepower **on diesel oil or natural gas** and heat input of 5.11 million British thermal units per hour; **on diesel oil or 4.44 million British thermal units per hour on natural gas**, capacity: 39.3 gallons of diesel fuel per hour.
 - (6) **One (1) diesel-powered or natural gas-fired engineering engine test cell, known as HHP4, exhausted through Stack HHP4, maximum output 1,350 horsepower on diesel oil or natural gas and heat input of 5.11 million British thermal units per hour on diesel oil or 4.44 million British thermal units per hour on natural gas, capacity: 39.3 gallons of diesel fuel per hour.**

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.2.1 PSD Minor Limit [326 IAC 2-2] [40 CFR 52.21]

- (a) The total diesel fuel oil delivered to the fourteen (14) engine test cells, known as EU-02A and EU-02B, shall not exceed the amount calculated by the following equation, equivalent to NO_x emissions of 217.9 tons per twelve (12) consecutive month period.

$$\text{NO}_x \text{ emissions} = (\text{Diesel fuel oil burned by engines in EU-02A}) * (0.427 \text{ pounds of NO}_x/\text{gallon of diesel fuel oil}) / (2000 \text{ pounds/ton}) + (\text{Diesel fuel oil burned by engines in EU-02B}) * (0.155 \text{ pounds of NO}_x/\text{gallon of diesel fuel oil}) / (2000 \text{ pounds/ton}) + (\text{Natural gas burned by engines in test cells 808, HHP4 and PI}) * (0.00416 \text{ pounds of NO}_x/\text{cubic foot of natural gas} / (2000 \text{ pounds/ton}) \text{ at a natural gas heat content of } 1,020 \text{ British thermal units per cubic foot})$$

- (b) The NO_x emission factors shall not exceed:
- (1) 0.427 pounds of NO_x per gallon of diesel fuel oil for EU-02A, and
 - (2) 0.155 pounds of NO_x per gallon of diesel fuel oil for EU-02B.
 - (3) **0.00416 pounds of NO_x per cubic foot of natural gas for test cells 808, HHP4 and PI.**
- (c) Compliance with the limits in (a) and (b) will insure that the NO_x emissions from the entire source, including insignificant activities will not exceed two hundred and fifty (250) tons per year and makes the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration) and 40 CFR 52.21 not applicable.

Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

D.2.3 Visible Emissions Notations

- (a) Visible emission notations of the test cell stack exhausts (801 through 808, HHP1 through HHP5) as well as test pad stack exhausts (PD1 and PD2) shall be performed once per shift during normal daylight operations **when burning diesel oil**. A trained employee shall record whether emissions are normal or abnormal.

Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.2.4 Record Keeping Requirements

- (a) To document compliance with Condition D.2.1, the Permittee shall maintain records in accordance with (1) and (32) below:
- (1) Calendar dates covered in the compliance determination period; and
 - (2) Actual diesel fuel oil usage in EU-02A and EU-02B since last compliance determination period and equivalent NO_x emissions.
 - (3) **Actual natural gas usage in EU-02A and EU-02B since last compliance determination period and equivalent NO_x emissions**
- (b) To document compliance with Condition D.2.3, the Permittee shall maintain records of visible emission notations of the test cell stack exhausts 801 through 808, HHP1 through HHP5, as well as test pad stack exhausts PD1 and PD2 once per shift **when burning diesel oil**.

- (c) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE BRANCH
Part 70 Quarterly Report

Source Name: Cummins Industrial Center
Source Address: 800 East Third Street, Seymour, Indiana 47274
Mailing Address: 800 East Third Street, Seymour, Indiana 47274
Part 70 Permit No.: T 071-7679-00015
Facilities: Fourteen (14) engine test cells, known as EU-02A and EU-02B
Parameters: Diesel **oil and natural gas** fuels
Limit: **Fuel Usage** Gallons per twelve (12) consecutive month period total, equivalent to 217.9 tons of NO_x per year calculated by the following equation:

NO_x emissions =(Diesel fuel oil burned by engines in EU-02A) * (0.427 pounds of NO_x/gallon of diesel fuel oil)/(2000 pounds/ton)+ (Diesel fuel oil burned by engines in EU-02B) * (0.155 pounds of NO_x/gallon of diesel fuel oil)/(2000 pounds/ ton)+**(Natural gas burned by engines in test cells 808, HHP4 and PI) * (0.00416 pounds of NO_x/cubic foot of natural gas / (2000 pounds/ton) at a natural gas heat content of 1,020 British thermal units per cubic foot**

YEAR: _____

Month	This Month			Previous 11 Months			12 Month Total		
	Diesel Fuel (gallons) EU-02A	Diesel Fuel (gallons) EU-02B	Equivalent NO _x (tons) EU-02A + EU-02B	Diesel Fuel (gallons) EU-02A	Diesel Fuel (gallons) EU-02B	Equivalent NO _x (tons) EU-02A + EU-02B	Diesel Fuel (gallons) EU-02A	Diesel Fuel (gallons) EU-02B	Equivalent NO _x (tons) EU-02A + EU-02B
Month	Natural Gas (cubic ft) EU-02A	Natural Gas (cubic ft) EU-02B	Equivalent NO _x (tons) EU-02A + EU-02B	Natural Gas (cubic ft) EU-02A	Natural Gas (cubic ft) EU-02B	Equivalent NO _x (tons) EU-02A + EU-02B	Natural Gas (cubic ft) EU-02A	Natural Gas (cubic ft) EU-02B	Equivalent NO _x (tons) EU-02A + EU-02B

Total NO _x Emissions Diesel Oil & Natural Gas	Month	Month	Month
12 Month Total (tons)			

- 9 No deviation occurred in this quarter.
9 Deviation/s occurred in this quarter.
Deviation has been reported on:

Submitted by: _____
Title / Position: _____
Signature: _____
Date: _____
Phone: _____

Attach a signed certification to complete this report.

Conclusion

The construction and operation of this proposed modification shall be subject to the conditions of the attached proposed Part 70 Significant Source Modification No. 071-15326-00015 and Permit Modification No. 071-15679-00015.

**Appendix A: Emission Calculations
Natural Gas-fired Reciprocating Engines**

Page 1 of 1 TSD App A

Company Name: Cummins Industrial Center
Address City IN Zip: 800 East Third Street, Seymour, Indiana 47274
Source Modification: 071-15326
Pit ID: 071-00015
Reviewer: Frank P. Castelli
Date: February 26, 2002

EU-02A (Engine 808 @ 2.68 mmBtu/hr)

EU-02B (Engines HHP4 @ 4.44 mmBtu/hr & PI @ 4.44 mmBtu/hr)

Four Stroke Lean Burn Engines

90 - 105% Load (worst case)

Heat Input Capacity

MM Btu/hr

11.56

Emission Factor in lb/MMBtu	Pollutant					
	PM	PM-10	SO ₂	NO _x	VOC	CO
SCC 2-02-002-54	0.009910	0.000077	0.000588	4.080000	0.118000	0.317000
Potential Emission in tons/yr	0.502	0.004	0.030	206.6	5.97	16.1

HAPs	Emission Factor Four Stroke lean burn (lb/MMBtu)	Potential to Emit (tons/yr)
1,1,2,2-Tetrachloroethane	4.00E-05	0.0020
1,1,2-Trichloroethane	3.18E-05	0.0016
1,1-Dichloroethane	2.36E-05	0.0012
1,2-Dichloroethane	2.36E-05	0.0012
1,2-Dichloropropane	2.69E-05	0.0014
1,3-Butadiene	2.67E-04	0.0135
1,3-Dichloropropene	2.64E-05	0.0013
2,2,4-Trimethylpentane	2.50E-04	0.0127
Acetaldehyde	8.36E-03	0.4233
Acrolein	5.14E-03	0.2603
Benzene	4.40E-04	0.0223
Biphenyl	2.12E-04	0.0107
Carbon Tetrachloride	3.67E-05	0.0019
Chlorobenzene	3.04E-05	0.0015
Chloroethane	1.87E-06	0.0001
Chloroform	2.85E-05	0.0014
Ethylbenzene	3.97E-05	0.0020
Ethylene Dibromide	4.43E-05	0.0022
Formaldehyde	5.28E-02	2.6734
Methanol	2.50E-03	0.1266
Methylene Chloride	2.00E-05	0.0010
n-Hexane	1.11E-03	0.0562
Naphthalene	7.44E-05	0.0038
Phenol	2.40E-05	0.0012
Styrene	2.36E-05	0.0012
Toluene	4.08E-04	0.0207
Vinyl Chloride	1.49E-05	0.0008
Xylene	1.84E-04	0.0093
Total HAPs:		3.65

Methodology

Emission Factors are from AP 42 Tables 3.2-1, 3.2-2 and 3.2-3, revised July 2000

Emission (tons/yr) = [Heat input rate (MMBtu/hr) x Emission Factor (lb/MMBtu)] * 8760 hr/yr / (2,000 lb/ton)